ABSTRACT OF THE DISCLOSURE

Although there are several inventions disclosed herein, the present application is directed to a reactor for electrochemically processing a microelectronic workpiece. The reactor comprises a movable electrode assembly that is disposed for movement along a motion path. The motion path includes at least a portion thereof over which the electrode assembly is positioned for processing at least one surface of the microelectronic workpiece. A cleaning electrode is located along the motion path of the movable electrode assembly. In one embodiment, a programmable controller is connected to direct the movable electrode assembly to move to the cleaning electrode during a cleaning cycle. At that time, the programmable controller connects the movable electrode assembly as an anode and the cleaning electrode as a cathode for cleaning of the movable electrode assembly. The cleaning electrode may be disposed along a position of the motion path that is beyond the range of motion required to process the microelectronic workpiece so that the programmable controller may be programmed to conduct a cleaning cycle while a microelectronic workpiece is present in the reactor for processing.